“Water Policy And The Environment”

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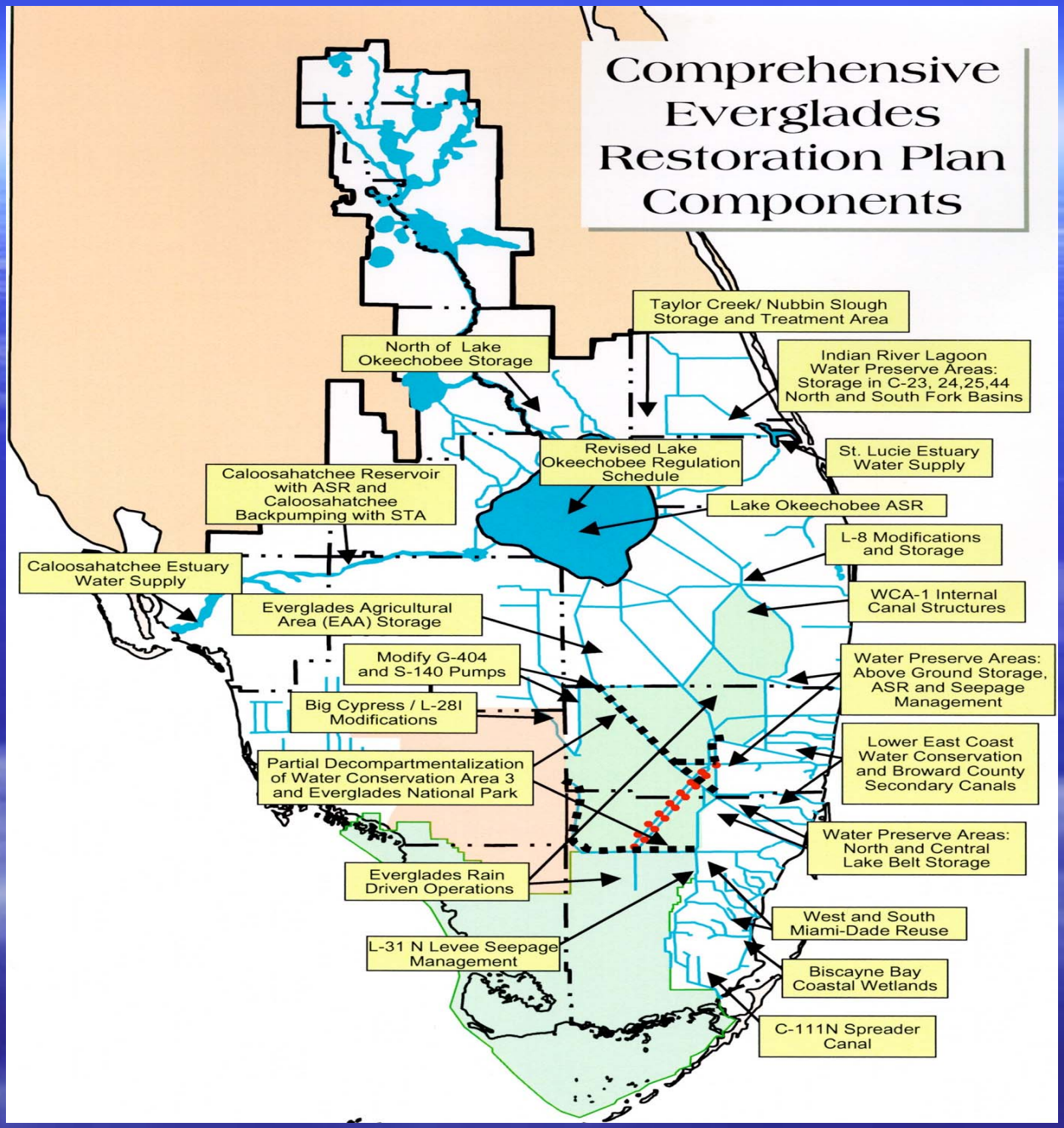
THE EVERGLADES


Comprehensive Everglades Restoration Plan Components
Taylor Creek/ Nubbin Slough Storage and Treatment Area
North of Lake Okeechobee Storage
Indian River Lagoon Water Preserve Areas: Storage in C-23, 24,25,44 North and South Fork Basins
Revised Lake Okeechobee Regulation Schedule
St. Lucie Estuary Water Supply
Caloosahatchee Reservoir with ASR and Caloosahatchee Backpumping with STA
Lake Okeechobee ASR
L-8 Modifications and Storage
Caloosahatchee Estuary Water Supply
WCA-1 Internal Canal Structures
Everglades Agricultural Area (EAA) Storage
Modify G-404 and S-140 Pumps
Water Preserve Areas: Above Ground Storage, ASR and Seepage Management
Big Cypress / L-28I Modifications
Lower East Coast Water Conservation and Broward County Secondary Canals
Partial Decompartmentalization of Water Conservation Area 3 and Everglades National Park
Water Preserve Areas: North and Central Lake Belt Storage
Everglades Rain Driven Operations
West and South Miami-Dade Reuse
L-31 N Levee Seepage Management
Biscayne Bay Coastal Wetlands
C-111N Spreader Canal

The Water Supply Impacts on the Ecosystem

The regional water ecosystem has been supplying most water for development, and is now the subject of a $20 billion restoration effort, and legal measures to protect water for the natural system.

- **Development has:**

  1. Created the need to drain (a lot of) water out of the ecosystem.

  2. Pulled water out of the Aquifer to irrigate lawns and met daily potable water demands.

- **The ecosystem impacts have been:**

  1. Wetlands have dried up a lot or a little.

  2. Wading birds and other creatures with very specific water level needs at specific times of the year have suffered greatly.

  3. Estuaries, also with very specific water depth and fresh/ saline needs at specific times of the year, get too much water at times and too little water at others.

  4. Fish and wildlife suffer a lot, but so do recreation, fishing, etc. and their corresponding economic values.

http://www.evergladesplan.org/about/restudy_csf_devel.aspx

- Water is the lifeblood of the south Florida ecosystem. Compared to the historic Everglades, approximately 70 percent less water flows through the ecosystem today. The quality of the water that does enter the ecosystem has been seriously degraded. It does not follow the timing and duration of the natural Everglades nor can it move freely throughout the entire system. The whole south Florida ecosystem has suffered. The health of Lake Okeechobee, the second largest freshwater lake wholly in the United States and an important home to fish and wildlife, is seriously threatened. A number of plants and animals that live in south Florida and the Everglades are in danger of becoming extinct because their habitat has been damaged, reduced or eliminated. Clean water is not available to the estuaries and bays that are critical nurseries and homes to many fish and wildlife. There is not enough water for the people either. Water shortages and water restrictions are now a way of life in some parts of south Florida.

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- The Central and Southern Florida Project was authorized in 1948 to provide flood protection and fresh water to south Florida. This project accomplished its intended purpose and allowed people to more easily live on the land. However, it did so at a tremendous ecological cost to the Everglades. While the population of people has risen from 500,000 in the 1900's to more than 6 million today, the number of native birds and other wildlife have dwindled and some have vanished.
- This massive water management project was built to address flood protection and provide water to the people and agricultural lands. When the project was designed in the 1950s only about 500,000 people lived in the region, and it was estimated there might be two million by the year 2000. Today's population of about six million people is three times more than the project was designed to serve. This strains the ability of the built system to perform its intended functions.
- Over the past 100 years, excessive drainage of wetlands and changes in the natural variability of water flows have altered the Everglades wetland ecosystem on a regional scale.
- **Indicators of Ecosystem Problems**
- 90-95% reduction in wading bird populations 68 plant and animal species are threatened or endangered

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- The remaining Everglades, and indeed the entire south Florida ecosystem, no longer exhibit the functions, richness, and area that historically defined the pre-drainage system. There have been substantial and irreversible reductions in the size of the ecosystem. Most of the negative changes in the ecosystem are a direct result of water management activities to control floods and provide for water supply. Today, discharges to the Everglades are often too much, or too little, and frequently at the wrong times of the year. An over abundance or scarcity of water affects plants and wildlife accustomed to the Everglades' historic range of water flows and levels. In addition, canals and highways that criss-cross the Everglades have interrupted its historic overland sheet flow.
- Historically, most rainwater soaked into the ground in the region's vast wetlands. As south Florida developed, the canal system built over the past 100 years worked very effectively and drained water off the land too quickly. As a result, approximately **1.7 billion gallons of water per day** on average are discharged to the ocean and gulf. One consequence is that not enough water is available for the environment.

SFWMD Press Statement,2/15/07: Announcing Adoption of the Regional Water Availability Rule

- During the dry season, Lower East Coast water suppliers currently depend on an estimated 500 million gallons of water per day from the Everglades to sustain their primary drinking water source, the Biscayne Aquifer. In turn, low dry season water levels have disturbed the Everglades ecosystem, and the State of Florida has committed billions of dollars to reversing these impacts by restoring natural flows and levels.

  Over the past six years since the state and federal governments approved the Comprehensive Everglades Restoration Plan (CERP), the SFWMD has imposed limitations on permits for Everglades water to address environmental concerns on the assumption that CERP would be implemented as scheduled.

- "The regional water availability rule is essential for protecting the water left in the Everglades for restoration," added SFWMD Executive Director Carol Ann Wehle. "It represents a strong and very clear policy statement from our board that the South Florida Water Management District will protect water for the environment."

The Legal Mechanisms At Play to Address The Problems

2005 Growth Management Act Changes

Water Resource Protection Laws

The Resulting Challenges

Utilities are required to identify non-traditional sources for future growth.

Ch. 163 ties new growth to water availability, and region has acute water supply limits.

Unheeded Warnings…Days of Reckoning…

Where, When & How to Grow All Impacted

SFWMD playing mandated role in planning and water resource protection.

SFWMD Role

- Fulfilled commenting duties under Ch. 163
- Objected to Various FLUM Amendments
- Meetings & Technical Assistance
- Legal Measures to Protect Water From Allocation
  - Regional Water Availability Rule
  - Reservations For Protection of Fish & Wildlife

Water managers warn of continued water supply squeeze

By Andy Reid | South Florida Sun-Sentinel

June 12, 2008

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Dade water bills to rise under new deal

Miami Herald, Thu, Nov. 15, 2007

MIAMI-DADE | GROWTH AND ENVIRONMENT

"Miami-Dade County is on course to receive a 20-year water-use permit, reopening debate on how and where the county should grow."

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"*Water managers ask state to reject permits to build beyond UDB"*

Miami Herald, Sat, Feb. 09, 2008

Dade water bills to rise under new deal

Miami Herald, Thu, Nov. 15, 2007

Miami-Dade County is on course to receive a 20-year water-use permit, reopening debate on how and where the county should grow.

“Miami-Dade had little choice beyond investing in water reuse. Under a 2005 state law and water district rules, counties must show they have the water to supply development without harming wetlands, waterways and other natural systems.”

“Despite the restrictions, the permit lowers one of the biggest barriers to building beyond the county's Urban Development Boundary, a line intended to control suburban sprawl.”

"We believe it's one of the reasons it's being pushed," said Shirreffs, whose Hold The Line group fought a push last year to build nine new projects beyond the UDB. Concerns about the water supply were a key reason that state and regional planners and the county commission rejected the efforts.”

The ORC Report

- **"If this potable water service area is expanded to include the three UDB amendments, it would be expected to have a greater potential population and a greater potential water demand than the existing delineated service area used to provide the basis for the CUP. This greater potential water demand must be matched by an additional planned supply of water. "**

- **"The three UDB amendments fail to identify the new water supply source, nor are the amendments supported by adequate data and analysis to demonstrate they can be provided an adequate water supply based upon current water sources. "**

(Objections, Recommendations, and Comments Report for Miami-Dade County Amendment 08-1 February 26, 2008)

OTHER PLACES

- FLUM changes and water supply objections in Briny Breezes, Hendry County, Broward.
- Orange County legal challenge to CUP denials based on impacts to Kissimmee river restoration.

The Ensuing Debate:

Is the SFWMD intruding on local land use decision-making?

Isn't the Development Order Concurrency Requirement All That Matters?

Whose experts on water availability are right?

Are FLUM amendments now only about water?

Broward County

- Proposed Land Use Plan Amendments garnered Similar Objections

The Issues in Broward

- Infill – Intensification creates additional water demands
- Even though most new projects could be classified as “infill” or “redevelopment”, there is still the potential for increasing impervious surfaces.

Options For Allowing New Development

1. Increase Supply
2. Decrease Demand
3. Grow less, in different locations or in different ways

THE CHALLENGES

Can water supply needs of population growth be met without unacceptable environmental impacts?

Should we encourage trend population growth and per capita water use?

Should we plan land uses much more carefully than in the past, not replacing lands important to water resource protection with water – intensive development?

Should we aggressively pursue less per capita consumption?

High costs … technical challenges… project denials… conflicting stakeholder interests

LESSONS

- The scarcity of cheap water is taking many people by surprise.
- Causing economic, social and legal challenges.
- The rest of Florida must determine whether the model south Florida used to develop or the one it is currently using in its current efforts to retrofit itself.
- Opportunities for Conflicts, Turf Wars & Litigation Exist.
- Regional Solutions & Inter-governmental Cooperation Needed.

Current State-wide Initiatives

- Century Commission's "Water Congress"

The Century Commission will convene a statewide Water Congress, on September 25-26, 2008, to develop a comprehensive set of sustainable water use and supply action steps.

Water Congress to Convene Sept. 25-26 to discuss proposed consensus recommendations, such as:

- **-Natural resources must be protected as water supply and use projects are developed.**
- e.g.: Assure that natural systems receive adequate protection to assure their long-term health before water is permitted for other uses.
- **-Water use efficiency must be maximized;**
- e.g.: Maximize the cost-effective reuse of reclaimed wastewater for non-potable uses.
- **-Assure sufficient water for all existing and future reasonable beneficial users**
- **- Minimize and adapt to climate change.**
- **- Achieve "dramatic improvements in landscape irrigation efficiency**" through planning and permitting requirements.

LESSONS

- Land use planning is the most effective toll for long term sustainability.
- Where to Develop, and at What Intensity & How All Matter
- Landscaping Requirements & Other Development Standards.
- CUP Decisions & Environmental Resource Permits Play a Role
- Ch. 163 land use factors more clearly requiring environmentally and financially sustainable development.
- Conservation is cheapest source of new water.

QUESTIONS?